## (56) References Cited

## OTHER PUBLICATIONS

Brennan, P.F., et al., "Virtualizing living and working spaces: Proof of concept for a biomedical space-replication methodology," Journal of biomedical informatics, vol. 57, pp. 53-61, 2015.

Coleman, E.A., et al., "The care transitions intervention: results of a randomized controlled trial," Archives of internal medicine, vol. 166, No. 17, pp. 1822-1828, 2006.

Cruz-Neira, C., et al., "Surround-screen projection-based virtual reality: the design and implementation of the cave," in Proceedings of the 20th annual conference on Computer graphics and interactive techniques. ACM, 1993, pp. 135-142.

Dachsbacher, C., et al., "Sequential point trees," in ACM Transactions on Graphics (TOG), vol. 22, No. 3. ACM, 2003, pp. 657-662. Elseberg, J., et al., "One billion points in the cloud—an octree for efficient processing of 3d laser scans," ISPRS Journal of Photogrammetry and Remote Sensing, vol. 76, pp. 76-88, 2013.

Gobbetti, E., et al., "Layered point clouds: a simple and efficient multiresolution structure for distributing and rendering gigantic pointsampled models," vol. 28, Issue 6 of Computers and Graphics, pp. 815-826, in Dec. 2004.

Goswami, P., et al., "An efficient multi-resolution framework for high quality interactive rendering of massive point clouds using multi-way kd-trees," The Visual Computer, vol. 29, No. 1, pp. 69-83, 2012.

Hart S. G., et al, "Development of nasa-tlx (task load index): Results of empirical and theoretical research," Advances in psychology, vol. 52, pp. 139-183, 1988.

Hill A.-M., et al., "Falls after discharge from hospital: is there a gap between older peoples knowledge about falls prevention strategies and the research evidence?" The Gerontologist, vol. 51, No. 5, pp. 653-662, 2011.

Hore, A., et al., "Image quality metrics: Psnr vs. ssim," in Pattern Recognition (ICPR), 2010 20th International Conference on, Aug. 2010, pp. 2366-2369.

Kreylos, O., et al., "Immersive visualization and analysis of lidar data," in Advances in visual computing. Springer, 2008, pp. 846-855

Lerma, J.L., et al., "Terrestrial laser scanning and close range photogrammetry for 3d archaeological documentation: the upper palaeolithic cave of parpall'o as a case study," Journal of Archaeological Science, vol. 37, No. 3, pp. 499-507, 2010.

Marroquim, R., et al., "Efficient point-based rendering using image reconstruction," in Proceedings Symposium on Point-Based Graphics, 2007, pp. 101-108.

McMahan, R.P., et al., "Evaluating display fidelity and interaction fidelity in a virtual reality game," Visualization and Computer Graphics, IEEE Transactions on, vol. 18, No. 4, pp. 626-633, 2012. Ponto, K., et al., "Simulating the experience of home environments." 2017 International Conference on Virtual Rehabilitation (ICVR). IEEE, 2017.

Ponto, K., et al., HPPR: Hierarchical Progressive Point Cloud Rendering, Journal of Latex Class Files, vol. 14 No. 8, Aug. 2015. Preiner, R., et al., "Auto splats: Dynamic point cloud visualization on the gpu," in Proceedings of Eurographics Symposium on Parallel Graphics and Visualization, H. Childs and T. Kuhlen, Eds. Eurographics Association 2012, May 2012, pp. 139-148.

Rodriguez, M.B., et al., "Interactive Exploration of Gigantic Point Clouds on Mobile Devices," in VAST: International Symposium on Virtual Reality, Archaeology and Intelligent Cultural Heritage, D. Arnold, J. Kaminski, F. Niccolucci, and A. Stork, Eds. The Eurographics Association, 2012.

Rusinkiewicz, S., et al., "Qsplat: A multiresolution point rendering system for large meshes," in Proceedings of the 27th annual conference on Computer graphics and interactive techniques. ACM Press/Addison-Wesley Publishing Co., 2000, pp. 343-352.

Ruther, H., et al., "Laser scanning for conservation and research of african cultural heritage sites: the case study of wonderwerk cave, south africa," Journal of Archaeological Science, vol. 36, No. 9, pp. 1847-1856, 2009.

Scheiblauer, C., et al., "Out-of-core selection and editing of huge point clouds," Computers & Graphics, vol. 35, No. 2, pp. 342-351, 2011.

Slater, M., "A note on presence terminology," Presence connect, vol. 3, No. 3, pp. 1-5, 2003.

Smit, F., et al., "An image-warping architecture for vr: Low latency versus image quality," in Virtual Reality Conference, 2009. VR 2009. IEEE, Mar. 2009, pp. 27-34.

Subramaniam, N.A., et al., "Hierarchical plane extraction (hpe): an efficient method for extraction of planes from large point cloud datasets," in Proceedings of the 34th Annual Conference of the Association for Computer Aided Design in Architecture on, ACADIA, 2014, pp. 627-636.

Tredinnick, R., et al., "Progressive feedback point cloud rendering for virtual reality display," in Virtual Reality (VR), 2016 IEEE. IEEE, 2016, pp. 301-302.

Tredinnick, R., et al, "Experiencing interior environments: New approaches for the immersive display of large-scale point cloud data," in Virtual Reality (VR), 2015 IEEE, Mar. 2015, pp. 297-298. Wimmer M., et al., "Instant points: Fast rendering of unprocessed point clouds," in Proceedings of the 3rd Eurographics/IEEE VGTC conference on Point-Based Graphics. Eurographics Association, 2006, pp. 129-137.

Winkler, S., et al., "The evolution of video quality measurement: from psnr to hybrid metrics," Broadcasting, IEEE Transactions on, vol. 54, No. 3, pp. 660-668, 2008.

Cobb, S. V., et al., "Virtual reality induced symptoms and effects (vrise)," Presence, vol. 8, No. 2, pp. 169-186, 1999.

Richter, R., et al., "Out-of-core real-time visualization of massive 3d point clouds," in Proceedings of the 7th International Conference on Computer Graphics, Virtual Reality, Visualisation and Interaction in Africa. ACM, 2010, pp. 121-128.

Rosser, N., et al., "Terrestrial laser scanning for monitoring the process of hard rock coastal cliff erosion," Quarterly Journal of Engineering Geology and Hydrogeology, vol. 38, No. 4, pp. 363-375, 2005.

Wand, M., et al., "Processing and interactive editing of huge point clouds from 3d scanners," Computers & Graphics, vol. 32, No. 2, pp. 204-220, 2008.

Wang, J., et al., "Research on 3d laser scanning technology based on point cloud data acquisition," in Audio, Language and Image Processing (ICALIP), 2014 International Conference on, Jul. 2014, pp. 631-634.

Walter, B et al. Interactive Rendering using the Render Cache. D. Lischinski and G.W. Larson. Rendering techniques 99 (Proceedings of the 10th Eurographics Workshop on Rendering), Jun. 1999, Granada, Spain. Springer-Verlag/Wien, 10, pp. 235-246, 1999.

Gross M., et al., eds, Point-based graphics. Published by Morgan Kaufmann, 2011.

Buck, Ian, et al., Gpu gems 2: programming techniques for high-performance graphics and general-purpose computation. Chapter 32. Edited by Matt Pharr, published by Addison-Wesley Professional, 2005.

\* cited by examiner